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ABSTRACT

The Teenage Health Teaching Modules (THTM) program is a health education curriculum for adolescents. Each THTM module frames an adolescent health task emphasizing development of self-assessment, communication, decision making, health advocacy, and self-management. This module provides information on the many physical and psychological benefits of being fit. It is designed to help students develop individualized exercise programs and engage in exercise programs that can be maintained. Six class activities are presented: (1) identifying reasons for being active; (2) determining individual fitness, based on recovery heart rate; (3) introducing concepts of aerobic fitness, Target Zone, and injury prevention; (4) analyzing one's own and others' lifestyle as a determinant of fitness activities; (5) establishing a realistic exercise plan; and (6) identifying community resources that encourage fitness. (JD)

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DEPARTMENT OF HEALTH & HUMAN SERVICES

PRELIMINARY DRAFT
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Public Health Service
Centers for Disease Control

Memorandum

Date: October 1983

From: Director, School Health and Special Projects
Division of Health Education
Center for Health Promotion and Education

Subject: Teenage Health Teaching Module
BEING FIT

To: Colleagues in School Health and Health Promotion

The attached module, Being Fit, is one of sixteen modules in the Teenage Health Teaching Modules (THTM) program. The overall goal of this health curriculum for adolescents is to provide secondary school students with knowledge, skills, and understandings that will enable them to act on behalf of themselves and others in health-enhancing ways. Each THTM module frames an adolescent health task and is designed to help students contribute to their own present and future health and well-being and that of the families, schools, and communities to which they belong.

The THTM program was produced under contract (CDC 200-79-0922) between the School and Society Programs of the Education Development Center, Inc., and the Center for Health Promotion and Education of the Centers for Disease Control.

Inquiries related to this module should be directed to this office. Write or call:

Centers for Disease Control
Center for Health Promotion and Education
Division of Health Education
Attn: School Health and Special Projects
Atlanta, Georgia 30333
(404) 329-2829
FTS 236-2829

Roy L. Davis

Roy L. Davis

SP026471

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This is one module in the Teenage Health Teaching Modules (THTM) program, a health education curriculum for adolescents developed by Education Development Center, Inc. (EDC) and funded by the Center for Health Promotion and Education, Centers for Disease Control, Public Health Service, U.S. Department of Health and Human Services.

The overall goal of the THTM program is to provide secondary school students with knowledge, skills, and understandings that will enable them to act on behalf of themselves and others in health-enhancing ways. Each THTM module frames an adolescent health task and is designed to help students contribute to their own present and future health and well-being, and that of the families, schools, and communities to which they belong.

The THTM program emphasizes development of the following health skills: self-assessment, communication, decision making, health advocacy, and self-management. For a complete description of the THTM program, additional materials, or assistance in using these materials, please write or call Teenage Health Teaching Modules, Education, Development Center, Inc., 55 Chapel Street, Newton, MA 02160m (617) 969-7100. Official health and education agenices may also contact the School Health and Special Projects Office, Division of Health Education, Center for Health Promotion and Education, Centers for Disease Control, Atlanta, GA 30333, (404) 329-2829 or FTS 236-2829.

Teenage Health Teaching Modules:

Health Is Basic: An Introduction to the THTM Program for Teachers and Students

Understanding Growth and Development

Being Fit

Eating Well

Communicating in Families

Promoting Health in Families

Having Friends

Living with Feelings

Handling Stress

Protecting Oneself and Others: Smoking, Drinking, and Drugs

Preventing Injuries

Improving Health and Safety in the Workplace

Locating Health Resources

Using New Health Research

Acting to Create a Healthy Environment

Planning a Healthy Future

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Introduction

Adolescents, for the most part, have few health problems resulting from lack of exercise. Nevertheless, the exercise habits developed during adolescence set the stage for the future health of one's cardiovascular system. Diseases of the heart and blood vessels, which account for more deaths in this country than all other causes combined, are strongly linked with a sedentary lifestyle. Yet, as adolescents prepare for adult roles through greater attention to school work and involvement in "adult" forms of recreation (most of which involve driving and sitting), they too often acquire the adult misconception that being sedentary is a normal way of life. A healthy heart adapts to inactivity, just as it adapts to other changes in workload, so the habit of inactivity acquired during adolescence can lead to a number of degenerative diseases. For the sake of their health, adolescents need to know about activities they can perform throughout their lives to prevent or forestall these diseases. Being Fit provides the basic knowledge and strategies that will enable adolescents to begin and maintain a healthy exercise program.

Just as important, this module helps students discover the added dimensions that fitness can bring to their lives: more energy, better sleep, improved digestion, reduced stress, better physical appearance, and, of course, fun. Some of the best rewards of fitness, known to all of us who get past the initial uncomfortable stage of becoming reacquainted with our bodies, are nonphysical rewards. With exercise comes the opportunity to be with friends, achieve new goals, sense the world more fully, learn about our capacities and limits, and express anger, frustration, and joy. Better physical health becomes a fringe benefit that accrues to those who become "hooked" on the joys of moving and being fit.

The module stresses the rewards of being fit, but at the same time it acknowledges that these rewards are the result of discipline, consistency, and the willingness to take some

reasonable risks. For those who accept the challenge, undertaking a regular fitness program can bring a sense of mastery and control. The rapid physical changes of puberty can easily threaten the adolescent's self-image and an exercise program that allows the individual to control his or her body provides a powerful counteraction to this threat. Because the results of working on a fitness program are quite tangible to oneself and others, the fit adolescent gains a sense of accomplishment and pride.

Another important message of this module is that fitness is an equal opportunity enterprise. It is not just for jocks. Unfortunately, our schools and our culture encourage the two-track system that rewards elite (and winning) athletes and banishes the rest of us to the bleachers or the television set. A major goal of this module is to convince adolescents that all of us, including the physically handicapped, are equipped with bodies that demand action as much as they demand food and sleep. All of us, whether we are competitive athletes or fitness dropouts, can find ways to move and be fit that are right for us.

The emphasis of this unit is primarily on individual fitness. Students are asked to develop a fitness program that fits with their interests, personality, schedule, and abilities. They help others in the class develop fitness programs, too. A broader perspective is incorporated by having students examine what fitness means to people they know. They will see that fitness is perceived differently by people of different ages, those who engage in different kinds of sport, and by people in other cultures. They will have a chance to identify fitness resources in their own community and examine the ways in which their community promotes fitness.

It is difficult to motivate people to maintain a fitness program. More than half of the people who begin a program drop out during the first month. Given this discouraging fact, what can we as teachers do to encourage adolescents to be fit? First, we can show them that we believe in the importance of fitness. If you are not active now, why not begin an exercise program along with your students? If you are already physically active, show your students that you are. Swap stories about your basketball games, dance classes, tennis matches, hiking trips, or road races. Show them that you are interested in promoting fitness in your school, perhaps by helping them get teachers, administrators, and students interested in brief exercise breaks during school time. If you are convinced that fitness is fun, your students may believe it, too. You can also encourage them to share what they are doing and some of the activities with their parents and siblings. As you teach the module, remember that the search for fitness should provide pleasure, and that finding pleasure in movement is a worthy goal in itself.

Goals of the Module

This module will:

- Inform students about the many physical and psychological benefits of being fit.
- Assure students that everyone, regardless of athletic ability, can and should attain an optimal level of cardiovascular fitness.
- Help each student develop an individualized exercise program, based on a realistic goal, that fits his or her ability, interests, personality, and schedule.
- Encourage students to engage in an exercise program that they can maintain.
- Help students identify the forces that help maintain an exercise program and those that prevent a program from working.
- Provide opportunities to help peers, family, and friends increase their level of fitness.
- Help students identify and use the fitness resources offered by their own communities.

Module Overview

ACTIVITY	DESCRIPTION	INSTRUCTIONAL METHODS	# OF CLASS PERIODS
One			
Who Is Fit?	Identifying the reasons for being active.	Interviews, class discussion, mini-lecture	1-2
Two			
How Fit Are You?	Determining individual fitness, based on recovery heart rate.	Outdoor or gym activity session	1
Three			
Fitness Facts	Introducing concepts of aerobic fitness, Target Zone, injury prevention.	Mini-lecture, class discussion	1

Note: The numbers of class periods listed for each activity are suggestions only. Teachers are urged to make their own determinations based on the interests and abilities of their students.

ACTIVITY	DESCRIPTION	INSTRUCTIONAL METHODS	# OF CLASS PERIODS
Four			
What Fits Me?	Analyzing one's own and others' lifestyle as a determinant of fitness activities.	Self-assessment instrument, mini-lecture, class discussion	1
Five			
A Fitness Plan That Works	Establishing a realistic exercise plan for the next month.	Health action plan, class poll	1
Six			
Community Fitness Map	Identifying community resources that encourage fitness.	Small-group work, mini-lecture, role playing	2

Activity One

Who Is Fit?

Objectives

Cognitive: Students will be able to:

- Identify several different reasons for being involved in a fitness program.
- List the psychological and physical benefits of exercise.
- Understand that people of many different ages and ability levels can attain an optimal level of fitness.

Affective: Students will:

- See that for many people fitness is fun and offers a variety of rewards.
- Appreciate the fact that exercising involves costs as well as benefits.

Skills: Students will:

- Interview someone who is a regular exerciser.
- Pool information obtained from interviews to make more general conclusions about reasons for exercising.

Activity at a Glance

In this activity students interview someone who is physically fit to determine why the person exercises and then examine the benefits as well as the costs of an exercise program for that individual. Interview results are pooled and discussed in class, and the session continues with a mini-lecture on the physical and psychological benefits of fitness.

Preparation

1. One week before beginning the module, duplicate and distribute the "Who Is Fit?" Interview Sheets and ask students to find someone who exercises at least three times a week for at least 30 minutes each session. Encourage them to interview family members, neighbors, or other people in the community rather than classmates. Tell the students that the interview should take no more than 15 minutes, and ask them to bring their interview sheets to class for this session. (Note that all material to be duplicated for student use in each activity appears on boxed pages at the end of the activity.)

2. Have students bring small spiral notebooks to class to start their Fitness Logs.

3. Review the mini-lecture material and familiarize yourself with the reference list at the back of the book. If you have little background in this area, Shepro and Knuttgen's Complete Conditioning; The No-Nonsense Guide to Fitness and Good Health (Reading, MA: Addison-Wesley, 1979) is an excellent, entertaining sourcebook.

Procedure

1. Recording the Interview Findings

On the board, list the following categories. Under the "Activities" category, list the activities and people represented in the interviews:

WHO IS FIT?

Activities	Reason Started	Likes	Dislikes
basketball			
John, age 21			
jogging			
Mrs. B., age 40			
Tony, age 17			
Mr. Z., age 65			
gymnastics			
Karen, age 11			

After recording the findings, ask each student to summarize the reasons the person started exercising and what he or she likes and/or dislikes about it. Finally, ask whether the person would recommend this activity for a beginner, and place a checkmark on the board next to the recommended activities.

Alternative: To save time, you may wish to have students record their findings on the board before class begins.

2. Guided Discussion

As you record the findings, be alert to patterns relating to age, sex, and the nature of the activities. In the discussion with students, help them analyze these patterns, using some of the following questions to guide the discussion:

Reasons: Did people give mostly the same or mostly different reasons for starting an exercise program?
Are there differences in their reasons depending on the activities they do?
Do you see differences between age groups or between males and females?

Likes: Did people of different ages like different things?
How about people who were doing different activities?
What things made it easier to exercise?

Dislikes: What was hard about sticking to an exercise program?
What did people of different ages dislike about exercising?
Were there some activities that were harder to keep doing? Why?
Why did people keep going on their exercise programs despite the fact that there were some things they disliked?

Recommendations: Why were the activities most often recommended thought best for beginners?

3. Notes for Mini-Lecture

THE BENEFITS OF BEING FIT

I am going to read some statements about exercise. Which do you think are true? Which are false? Jot down your answers.

- Exercising makes your heart stronger, and stronger hearts are more resistant to disease.
- Exercising gives you more energy.
- Exercising increases your emergency reserves of energy and strength.
- Exercising helps control your weight.
- Exercising slows down the aging process by strengthening your bones and connective tissue.
- Exercising is a natural high.
- Exercising makes it easier to concentrate on your school work.
- Exercising makes you more confident and self-accepting.

As you go through the mini-lecture, ask students how many of them indicated that each statement was true, how many of them thought it was false. After they give their responses, inform them of the correct answer and proceed with the information. Note: Each statement is true.

Physical Benefits of Exercise:

- Exercising makes your heart stronger, and stronger hearts are more resistant to disease. The major cause of death in this country is heart disease. Diseases of the heart and blood vessels kill more people than all other causes combined and are responsible for 65 percent of deaths (excluding deaths caused by accidents). By exercising, you strengthen your heart and prevent the build-up of fatty deposits on the artery walls. It is encouraging to see that in the last ten years as more Americans have gotten involved in regular exercise programs, there has been a 22 percent reduction in deaths caused by heart attacks and a 30 percent reduction in deaths caused by strokes. Of course this reduction may also be due to other factors, such as reductions in cigarette smoking and in the consumption of fatty foods.

  Exercising gives you more energy. Maybe it seems contradictory, but the more regular exercise you get, the more energy you will have for other activities. If your body is fit, it can handle more. For example, after Ruth Rothfarb finished running her first marathon (26.2 miles), she celebrated by going to a disco to dance with her friends. And she is 80 years old! So if you are tired and have trouble keeping up

with school, work, parties, and other activities, the answer may not be more sleep but more exercise. There is evidence that when you exercise regularly, you need a bit less sleep and you sleep more soundly.

- Exercising increases your emergency reserves of energy and strength. There are times when all of us need to move quickly--to catch a bus, to help a friend, to get out of a dangerous situation. (Ask students for examples of other situations in which they have needed emergency reserves.) Someone who is in shape has a much greater reserve capacity because his or her heart is stronger. Strong hearts respond more quickly, and are able to pump more blood to the muscles for longer periods of time without becoming exhausted.

- Exercising helps control your weight. People who are overweight do not necessarily eat more than their normal-weight friends, but they do move less. The less you move, the fewer calories you burn. The more exercise you get, the more calories you burn, and the more you can eat without putting on weight. Exercise also helps regulate your appetite. As you exercise more, you will not be a lot hungrier. In fact, after exercising for an hour, you will generally feel less hungry than when you started.

- Exercising slows down the aging process by strengthening your bones and connective tissue. During adolescence, your bones are strong and your ligaments and tendons are flexible and resilient. But starting in your twenties, your bones begin to become more brittle and you begin losing flexibility--especially if you don't exercise. Exercising your muscles actually strengthens your bones. And regular stretching will keep your connective tissue (ligaments and tendons) flexible. This is especially important in preventing lower back problems, which cause many middle-aged people a great deal of suffering. In fact, back problems are one of the leading causes of absences from work among middle-aged people. If your parents or their friends have back problems, they might benefit from a good exercise program. (Of course, they should check with their physician first.) And exercise is a good way to prevent these problems.

Psychological Benefits of Exercise:

For a long time, we have known that exercise improves physical health. Scientists are finding more evidence

to support that claim each day. But they are also beginning to discover that exercise makes people feel better mentally and psychologically. Here are some examples:

- Exercising is a natural high. After you have been exercising for at least a half hour, your body begins releasing higher amounts of endorphin, a chemical substance that blocks feelings of pain and makes you feel exhilarated. One author described the feeling this way:

  > Between 30 and 40 minutes, some people experience the "opening up" phenomenon. They begin to breathe more freely, their chest lifts and the entire system seems to work more at ease. It's a powerful, wonderful feeling. It's akin to waking something up inside you. The senses seem to increase in alertness. All of them respond: sight, hearing, touch, taste, smell, and position.*

  This kind of "high" does not happen each time you exercise, nor does it happen to everyone. But even if you don't actually feel high after 30 minutes of exercising, you will often feel more optimistic. Psychologists are finding that exercise is a good treatment for depression. Try it, next time you are feeling a little low.

- Exercising makes it easier to concentrate on your school work. If you get regular exercise you will find it easier to settle down and concentrate on your work, and the result might even be higher grades! One recent study found that first- through seventh-grade students who began a regular exercise program, consisting of five hours of vigorous activity each week, got higher grades than students who did not exercise.

- Exercising makes you more confident and self-accepting. Coaches used to say that exercise builds character. No one knows whether that is absolutely true, but studies have shown that people who exercise have more self-confidence and feel better about their bodies than those who do not. Part of this feeling probably

*Theodore Kostrubala, The Joy of Running (Philadelphia: Lippincott, 1976), pp. 96-97.

comes from knowing more about what you can do and what your limits are. One study showed that experienced exercisers are better at estimating how well they can do on a task than people who do not exercise. And exercising helps you accept yourself despite your limitations. As one regular exerciser said,

> I've become much more tolerant. I've learned to accept second and third place in a lot of things that I normally wouldn't. I like competition, but I've come to realize that you just can't win everything. It's made me more mellow.

4. Assignment

At the end of the lecture, introduce the Fitness Log by putting the following sample on the board. Have students divide pages in their notebooks into five columns to record information about their activities. Students should fill in the log for at least two days, preferably one weekday and one weekend day, before Activity Four. In Activity Four they will analyze their Fitness Logs.

FITNESS LOG

DATE	ACTIVITY/EXERCISE	WHEN?	WITH WHOM?	COMMENTS
10/2	football practice	3:00-4:30	team	knee hurt, felt tired
10/5	rode bike	9:30-10:30	alone	rode to store and back
	played basketball	3:30-4:00	Bob, Judy, Karen	Judy and me vs. Bob and Karen
10/6	walked to school	7:30-8:00	Karen	had a good talk
	football practice	3:00-4:30	team	felt better, no knee problems

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5. Supplementary Activities

- The filmstrip Marathon* could be used here to show the different reasons for becoming involved in a fitness program. At the beginning of the filmstrip, people of all ages state their reasons for running, and the reasons range from "not wanting to die" to instilling "an easier, more contemplative approach to everything you do."

- Invite some athletes or some ordinary folks who exercise regularly to visit the class and talk about the role exercise has played in their lives. One of the people interviewed by the students might be a good choice.

*Available from Family and Community Health Through Caregiving, Education Development Center, Inc., 55 Chapel Street, Newton, MA 02160.

WHO IS FIT?

Interview Sheet

In order to find out who is fit, find someone to interview who exercises at least three times every week, for at least 30 minutes each time. It might be someone in your family, a neighbor, or someone at work. The person does not have to be a serious athlete or on a team, just someone who exercises regularly. Age does not matter.

When you find a person to interview, explain that you are doing an assignment and want to find out about reasons for exercising. Explain that the interview will take 10 to 15 minutes. Record the answers on this sheet.

Name of person interviewed _____ Age _____

1. What is the main activity or sport that you do? _____

2. How often do you do it each week? _____

3. How many minutes/hours each time? _____

4. How long have you been doing this? _____

5. Why did you start? _____

_____

6. What was hardest about beginning? _____

_____

7. What do you like about the activity or sport? _____

_____

8. What helped the most in keeping you going with the exercise? _____

_____

9. Is there anything you do not like about the activity or sport? _____

_____

10. What is the hardest thing about keeping it up? _____

_____

11. Do you think you will keep on doing this activity? _____ Why or why not? _____

12. Would you recommend this activity for someone who is just beginning? _____ Why or why not? _____

Activity Two

How Fit Are You?

Objectives

Cognitive: Students will learn that:

- Level of fitness is directly correlated with recovery pulse rate.
- Pulse rates respond to variations in activity level.
- Warm-up exercises are important for injury prevention, and cooling down is important in returning the body's functioning to a normal level.

Skills: Students will:

- Be able to monitor their own carotid pulse.
- Be able to calculate their recovery rate.
- Determine their level of cardiovascular fitness based on recovery rate.

Activity at a Glance

Students learn how to take an exercise pulse and how to determine their recovery rate after exercise. Recovery rate provides an excellent indicator of an individual's cardiovascular fitness. After practicing how to find and take their pulses, students warm up their muscles, engage in vigorous physical activity for two minutes, and monitor their pulses immediately after exercise as well as one and two minutes after exercising. Using their pulse rates, they will calculate their recovery rates.

Preparation

1. Warn students ahead of time that since this activity involves physical exercise, they should wear comfortable, loose clothing and gym shoes. The activity can be done in

loose clothing and gym shoes. The activity can be done in the gym, outdoors, or in any large area (such as a classroom with the desks pushed back).

2. Have on hand at least one digital watch or watch with a second hand. Ideally, students should be able to see a large clock with a second hand or should wear watches with second hands.

Procedure

1. Taking Your Pulse

Begin the activity by teaching students to take their pulse. Because the pulse in the side of the neck (carotid pulse) is stronger and easier to find, teach them to monitor their pulse in this location. Warn them not to press too hard, however, for too much pressure will increase the pulse rate. A good technique for finding the carotid pulse is to start from the tip of the nose and with your finger draw an imaginary line to the corner of the mouth and continue down to the middle of the neck. Place two fingers in this location (never a thumb) and move them around until you find the pulse.

Once students have located their pulse, have them practice counting it for six-second intervals. They can practice by watching the clock (or their watches), or you can call off intervals. They need to be able to find their pulses quickly--within two seconds of your command: "Ready... Start." Have them practice until they can find their pulse that fast.

2. Recording Resting Pulse Rate

Students should be sitting quietly. Distribute the "Pulse Rate" sheets. Explain that students will determine the number of heartbeats per minute while resting, after warming up, immediately (within two seconds) after exercising, and after a one-minute and a two-minute cool-down period. Ask them to find their pulse, count out a six-second interval, and have them multiply the resulting figure by 10 to obtain their resting pulse rate. Enter this figure on the sheet. (Assure them that there is a wide range of normal resting pulse rates. A high resting pulse rate, in and of itself, does not indicate poor health or lack of fitness. What is more important is the recovery rate--i.e. how soon one's pulse returns to its usual resting rate after exercise.)

3. Warming Up

Explain that warm muscles are more efficient and less likely to tear. Warming up also helps the body gradually adapt to increased physical stress. Warming up should be a dress rehearsal for the muscles that will be used in the subsequent

activity. For example, for a person planning to run, slow stretching of the various groups of leg muscles, followed by a brisk walk to increase the pulse rate, is the best way to warm up. Suggested warm-ups are attached. Ask your physical education teachers for additional suggestions.

After warming up for a few minutes, students should again take their pulses for six seconds, multiply by 10, and record their pulse rates on the sheet.

Warm-Up Exercises:

Warm-up exercises should involve slow stretching of the muscles that will be used in the sport or activity that follows. Be sure to hold the stretched-out position for a period of 15 to 20 seconds, and repeat each stretch three to five times. Here are some stretches to do before running, jumping rope, or biking.

Wall Push-ups (for lower legs)

Place both hands on the wall and move your feet out to about three feet away from the wall. Keeping your body straight and your heels on the floor, move your body toward the wall until you feel a stretch in the back of your lower legs. Hold this position for 15 to 20 seconds.

Head-to-knee (for hamstrings--back of upper leg)

Sit on the floor in a comfortable position with both legs straight in front of you. Lean down slowly and grasp your ankles. Now, slowly pull your head towards your knees until you feel a stretch in the back of your thighs. Hold for 15 to 20 seconds.

Upper Legs

Stand on one foot. Bend the knee on the other leg and bring up your leg behind you. Grab your foot and slowly pull and gently stretch the large muscle on the top of your thigh. Repeat with the other leg. (Caution: not a good exercise for people with knee injuries.)

Rock Back (for back)

Lie on your back, bend your knees, and bring them up to your chest. Grasp your legs and bring your head toward

your knees. You should try to look like a ball. Now, rock back and forth slowly about 10 times.

4. Physical Activity

Before beginning, explain to students that they will exercise vigorously for two minutes to elevate their pulses, not to compete or to exhaust themselves. They should keep active, at a level they can handle for the entire two minutes. (If you notice any students panting too hard, have them slow down.) Emphasize that they will take their pulses immediately after exercising. Because the pulse rate goes down within a few seconds after exercise, it is essential that they find their pulses as quickly as possible.

Have students choose one of the following exercises to do for two minutes:

- Running--outdoors on a field, indoors in the gym, or in place.
- Stepping up and down on the bleachers or a step.
- Brisk calisthenics--jumping jacks, hopping, skipping.

5. Exercise Pulse Rate

Toward the end of the two minutes, tell students to get ready to find their pulses. As soon as possible after calling "Stop," call out a six-second interval for them to take their pulses. Do not wait for people who are slow. You must begin immediately for the measurement to be valid. After students have counted their pulses for six seconds, have them quickly record their pulse rates (six-second rate X 10) on the sheet and then walk around slowly for the next minute to cool down. The cooling down step is important. As they are walking, make the following points:

- Cool-down should start with walk or slow jogging for a couple of minutes.
- This should be followed by stretching exercises to stretch out the muscle groups used in the activity.
- Cool-down helps prevent tight muscles and helps muscles get rid of waste products. Cooling down properly means less soreness the next day.

6. One-Minute and Two-Minute Pulse Rates

Exactly one minute after the exercise pulse recording, another six-second pulse check is done. Students again

record their pulses and continue to walk around slowly. Have them take their pulses again after two minutes. Record both figures on the sheet. After they have recorded these figures, have them do a few brief stretches as the final part of the cool-down. Tell them that the longer and harder they exercise, the more important it is to do a complete cool-down.

7. Calculating Recovery Rate

Two figures will be used for this calculation: exercise pulse rate and one-minute pulse rate. The formula appears on the Pulse Rate sheet, along with a chart indicating the fitness level associated with various recovery rates. Point out to students that higher numbers mean that the heart recovers quickly and is in good shape. The lower the number, the poorer the recovery rate. The biggest drop should be between the exercise pulse and the one-minute pulse. The longer it takes for the pulse to drop, the poorer shape the person is in. The pulse should be close to its resting level after two minutes.

Recovery rate is a rough approximation of fitness. In an exercise laboratory, physiologists would use sophisticated equipment to get a more accurate picture of one's true level of fitness. Even though they are rudimentary measures, recovery rates can indicate how fit we are and by providing a baseline for comparison over time, they are useful for measuring personal progress.

Why are recovery rates an indicator of fitness? We know that the more fit one's heart and blood system (cardiovascular system) is, the faster he or she is able to return to his or her normal resting pulse rate. One reason is that the heart muscle of an athlete gets larger. The chambers of the heart do not get bigger, but the larger muscle area makes the heart a more efficient pump. This means it needs to work less hard to deliver blood and oxygen to the body than does the heart of someone who is out of shape.

During exercise, oxygen is the name of the game. Our muscles need oxygen to work. Without it, they become fatigued and produce waste products which in turn require oxygen to break them down.

Another important factor is that people who exercise regularly can increase the number of functional capillaries in their muscles. That increase comes from the development of previously dormant ones as well as the creation of new ones. Increasing the number of working capillaries increases the amount of oxygen that can reach the muscles.

Optional: You may want to provide extra Pulse Rate sheets and have students do the activity at home with their families. Within their own families or with friends, you might have them test the hypothesis: "People who are regular exercisers have the best recovery rates."

your knees. You should try to look like a ball. Now, rock back and forth slowly about 10 times.

4. Physical Activity

Before beginning, explain to students that they will exercise vigorously for two minutes to elevate their pulses, not to compete or to exhaust themselves. They should keep active, at a level they can handle for the entire two minutes. (If you notice any students panting too hard, have them slow down.) Emphasize that they will take their pulses immediately after exercising. Because the pulse rate goes down within a few seconds after exercise, it is essential that they find their pulses as quickly as possible.

Have students choose one of the following exercises to do for two minutes:

- Running--outdoors on a field, indoors in the gym, or in place.
- Stepping up and down on the bleachers or a step.
- Brisk calisthenics--jumping jacks, hopping, skipping.

5. Exercise Pulse Rate

Toward the end of the two minutes, tell students to get ready to find their pulses. As soon as possible after calling "Stop," call out a six-second interval for them to take their pulses. Do not wait for people who are slow. You must begin immediately for the measurement to be valid. After students have counted their pulses for six seconds, have them quickly record their pulse rates (six-second rate X 10) on the sheet and then walk around slowly for the next minute to cool down. The cooling down step is important. As they are walking, make the following points:

- Cool-down should start with walk or slow jogging for a couple of minutes.
- This should be followed by stretching exercises to stretch out the muscle groups used in the activity.
- Cool-down helps prevent tight muscles and helps muscles get rid of waste products. Cooling down properly means less soreness the next day.

6. One-Minute and Two-Minute Pulse Rates

Exactly one minute after the exercise pulse recording, another six-second pulse check is done. Students again

record their pulses and continue to walk around slowly. Have them take their pulses again after two minutes. Record both figures on the sheet. After they have recorded these figures, have them do a few brief stretches as the final part of the cool-down. Tell them that the longer and harder they exercise, the more important it is to do a complete cool-down.

7. Calculating Recovery Rate

Two figures will be used for this calculation: exercise pulse rate and one-minute pulse rate. The formula appears on the Pulse Rate sheet, along with a chart indicating the fitness level associated with various recovery rates. Point out to students that higher numbers mean that the heart recovers quickly and is in good shape. The lower the number, the poorer the recovery rate. The biggest drop should be between the exercise pulse and the one-minute pulse. The longer it takes for the pulse to drop, the poorer shape the person is in. The pulse should be close to its resting level after two minutes.

Recovery rate is a rough approximation of fitness. In an exercise laboratory, physiologists would use sophisticated equipment to get a more accurate picture of one's true level of fitness. Even though they are rudimentary measures, recovery rates can indicate how fit we are and by providing a baseline for comparison over time, they are useful for measuring personal progress.

Why are recovery rates an indicator of fitness? We know that the more fit one's heart and blood system (cardiovascular system) is, the faster he or she is able to return to his or her normal resting pulse rate. One reason is that the heart muscle of an athlete gets larger. The chambers of the heart do not get bigger, but the larger muscle area makes the heart a more efficient pump. This means it needs to work less hard to deliver blood and oxygen to the body than does the heart of someone who is out of shape.

During exercise, oxygen is the name of the game. Our muscles need oxygen to work. Without it, they become fatigued and produce waste products which in turn require oxygen to break them down.

Another important factor is that people who exercise regularly can increase the number of functional capillaries in their muscles. That increase comes from the development of previously dormant ones as well as the creation of new ones. Increasing the number of working capillaries increases the amount of oxygen that can reach the muscles.

Optional: You may want to provide extra Pulse Rate sheets and have students do the activity at home with their families. Within their own families or with friends, you might have them test the hypothesis: "People who are regular exercisers have the best recovery rates."

PULSE RATES

1. When I was sitting still, I counted _____ beats in six seconds. My resting heart rate was _____ beats per minute.

2. After warming up, I counted _____ beats in six seconds. My warming-up heart rate was _____ beats per minute.

3. Immediately after exercising, I counted _____ beats in six seconds. My exercise heart rate was _____ beats per minute.

4. One minute after exercising, I counted _____ beats in six seconds. My one-minute post-exercise heart rate was _____ beats per minute.

5. Two minutes after exercising, I counted _____ beats in six seconds. My two-minute post-exercise heart rate was _____ beats per minute.

RECOVERY HEART RATE

In order to figure out how fast you recover and how fit you are, do the following calculations:

1. Exercise pulse minus one-minute pulse = _____ beats per minute

2. Divide by 10.

3. The result = _____ (should be a whole number between 1 and 7).

Higher numbers mean your recovery rate is faster and that your heart is in good shape. Use the following chart to see what kind of shape you're in:

Recovery Rate

Less than 2	**Poor**
2 - 3	**Fair**
3 - 4	**Good**
4 - 6	**Excellent**
More than 6	**Super**

Activity Three

Fitness Facts

Objectives

Cognitive: Students will:

- Learn the basic concepts underlying aerobic fitness.
- Understand the principle of the "Target Zone."
- Identify basic safety precautions to prevent athletic injuries.
- Differentiate between aerobic and nonaerobic activities.

Affective: Students will understand that:

- They must take personal responsibility for monitoring their own response to exercise.

Skills: Students will be able to:

- Plot the "Target Zone" for people of different ages and levels of fitness.

Activity at a Glance

A number of important fitness facts are presented in this lesson. Students learn to identify aerobic fitness as the key to a fitness program, and to differentiate aerobic from nonaerobic activities. Finally, they will learn that while most activities and sports involve some risk of physical injury, there are many things they can do to prevent injuries.

Preparation

1. Have available copies of the "Target Pulse Zone" chart for all students (or prepare a large, classroom size chart,

perhaps with drawings of different aerobic activities on the sides of the chart.)

2. Review the information presented in this lesson. If you are not familiar with the concepts, you may wish to do some background reading. These two books are particularly informative:

Buxbaum, Robert, and Micheli, Lyle. Sports for Life. Boston: Beacon Press, 1979.

Cooper, Kenneth. The New Aerobics. New York: Bantam Books, 1970.

Procedure

1. Aerobic Fitness

To introduce the lesson, ask each student to write on a slip of paper one sentence that tells you all you'd need to know to keep fit. (For younger students, you might want to have them write this sentence as a telegram to an out-of-shape friend, or a message in a bottle.)

After students have completed this task (two or three minutes), have them read and compare their sentences. Then tell them that there is one simple key to fitness, and write the following on the board:

> Exercise for 30 minutes, at least three times a week, keeping your pulse in the "Target Zone" (144 to 176 beats per minute for teenagers).

Tell them that they will find out about the "Target Zone" during today's lesson.

2. Notes for Mini-Lecture

AEROBIC FITNESS

When you exercise, your blood and muscles use oxygen as fuel. To be fit, you must develop your aerobic capacity, which is the ability to use oxygen efficiently. When your heart is strong, it can transport oxygen to the muscles more easily, beating less often. That means that people who are fit can do more work at a lower pulse rate. For example, someone who is fit may be able to run a mile in eight minutes, with a maximum pulse rate of

145. For someone who is out of shape, running a mile in 10 minutes may send the pulse soaring to 180.

There is also a difference between fit people and out-of-shape people when they are resting. Fit people have lower resting pulse rates, sometimes as low as 40 to 50 beats per minute. The average person your age has a pulse rate of about 80 beats per minute. Check your pulse rate on your Pulse Sheet from the last class session.

Distribute (or display) the "Target Pulse Zone" chart and explain to students:

In order to develop aerobic fitness (also called cardio-respiratory fitness), you need to work out at a level that is somewhat less than what you are capable of doing. Your heart will become stronger if you put it under a fairly constant level of stress, not the stop-and-go type of stress found in games like football, for a given length of time. It will not become much stronger if you put either too little or too much stress on it. The right amount of stress is 70 to 85 percent of your Maximum Attainable Heart Rate. The maximum heart rate for people your age is about 200 to 210 beats per minute. So, at your age, your heart gets stronger when you exercise for 30 minutes or more, keeping your pulse at somewhere between 144 and 176 beats per minute.

What do you need to do to keep your pulse going at that level? It depends. If you are really out of shape, walking may be enough. If you are in terrific shape, you may have to ride your bike 18 miles an hour to get into the Target Zone. No matter what your level of fitness, as long as you are exercising in the Target Zone you are getting the same amount of benefit. Also note that depending on how hot it is, or how tired you are, it may take different amounts of activity to get into the Target Zone. For example, if you are recovering from a cold, you may find that walking briskly gets you into the Zone, but when you are well, you have to run to get into the Target Zone. Don't expect to exercise the same amount each day!

Your Target Zone also changes with age. As you get older, your maximum heart rate gets lower, and you need to do less work to get into the Target Zone. Look at how wide the Zone is. People who are in shape should generally exercise at the <u>high</u> part of the zone, while

those who are not in shape should be in the low part of the zone.

What would be a reasonable exercise pulse for the following individuals? Use the Target Pulse Zone chart to figure out your answers.

- A 35-year-old woman who has not gotten much exercise for the past 10 years
- A 50-year-old man who swims one mile every other day
- A 15-year-old girl on the cross-country team
- Your mother
- Your father
- You

How can you tell if you are exercising in the Target Zone? (Get students' responses.) You can tell by checking your pulse, like we did last time, but there is also an easier way: If you can talk to someone without being out of breath while you are exercising, you know you have not pushed yourself above the Target Zone. It is important not to go above the Target Zone, especially if you are just starting an exercise program because:

- When you exercise above your Target Zone, your body uses up oxygen faster than it replaces it. When this happens, your system is anaerobic (without oxygen), and you will not be able to keep going for the entire 30-minute session. You will be out of breath and exhausted, but you will not be doing much for your heart.
- Exercising above the Target Zone does nothing to improve your cardiovascular fitness. Athletes exercise above this Zone during competition, or occasionally for short periods of time during training. They know that it would put too much stress on their bodies, and they would get "stale." (Ask student athletes what it means to get stale, how it feels.)
- If you are not in shape, exercising above the Target Zone could be dangerous. Your heart is not used to this kind of work load. Every year we hear of middle-

aged people dying of heart attacks while shoveling snow. They have pushed their hearts too hard. This does not happen to young people very often, but it is unsafe for people of any age to exercise above their Target Zone.

3. Activities for Staying in the Target Zone

Continue mini-lecture:

Anything that gets and keeps your pulse in its Target Zone is a good aerobic activity that will improve your cardiorespiratory fitness. Other activities may contribute to other kinds of fitness. For example, you could lift weights to develop bigger and stronger muscles, but weightlifting will not benefit your heart if you do it slowly and take a two-minute break between exercises. An exercise like stretching, which is important for warming up and helps keep your muscles and connective tissue flexible, is not strenuous enough to get your heartbeat into the Target Zone. We are going to put a list of activities into these categories:

Aerobic Exercise Nonaerobic Exercise Either?

Write these as column headings on the board. Then read slowly the following list of activities, while the class decides where each belongs. Do not worry if many activities end up in the Either? column, because for many activities the amount of exertion can vary. This can be discussed. Ask students why many of the activities ended up in the Either? column. How can the same activity be either aerobic or anaerobic? Answers should include amount of energy exerted, length of "rest" intervals, amount of participation on a team sport, etc.

Activities to Classify

gymnastics
calisthenics
volleyball
sprinting
weightlifting
tennis
running
rowing
downhill skiing
ballet
jumping rope
bicycling
football
basketball
golf
folk dancing
ping pong
cross-country skiing
ice skating
roller skating
walking
rope climbing
(others?)

End this part of the lesson by summarizing:

Any activity that keeps your heart rate in the Target Zone for 30 minutes without stopping will develop your cardio-respiratory or aerobic fitness. The important things to remember are to keep going, and not to work too hard.

In anaerobic activity you are working too hard and exceeding your body's capacity to supply oxygen to your muscles. Your muscles quit and you do not have the opportunity to strengthen your heart.

At the other extreme, there are some activities which are neither aerobic nor anaerobic--i.e. they are neither adequately working your heart nor are they causing you to exceed your capacity. In sports, such as bowling, baseball, or golf, players do not move enough to elevate their pulse rates into the Target Zone. Therefore, these activities don't do the heart very much good.

4. Injury Prevention

Have students look again at the Aerobic Exercise column, and ask them to identify some risks associated with these activities. Inform them that it is fairly common for people who exercise regularly to get minor injuries from time to time, but there are specific things that an individual can do to minimize the risk of injury. The following are good guidelines to reduce the chances of getting injured. As a homework assignment, have students choose one of the guidelines and illustrate it by making a poster. (Optional: The posters could be placed in the gymnasium or another common area of the school.)

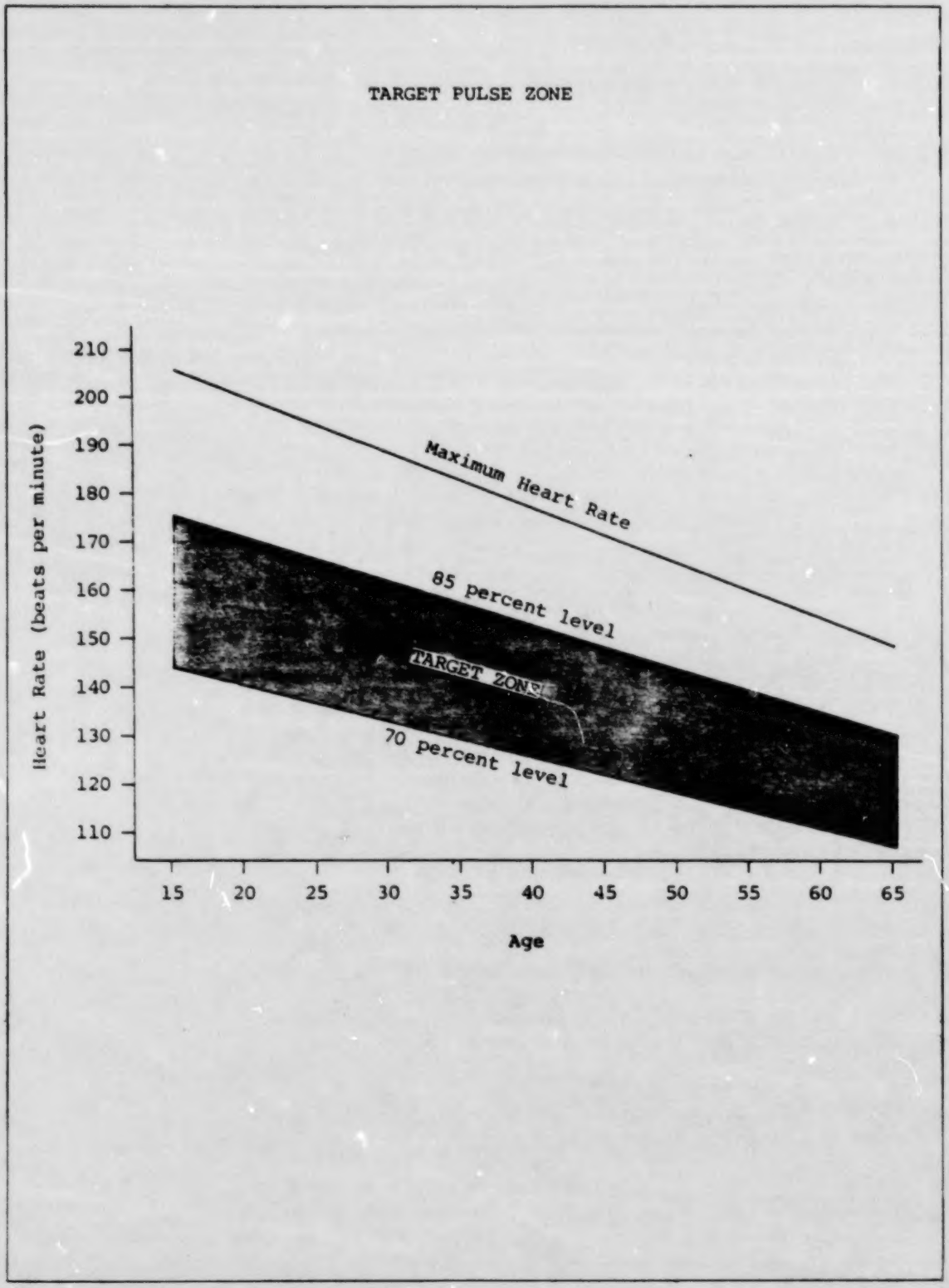
Injury Prevention Guidelines

1. Prevent Muscle Soreness...by warming up before your exercise session and cooling down afterward.

2. Beat the Heat...by drinking plenty of water before, during, and after activity sessions. The more water, the better.

3. Keep Alive...by wearing reflective clothing or lights when exercising outside at night.

4. Train, Don't Sprain!...by wearing the right equipment. Properly fitting shoes minimize your chances of pulling a muscle when running, or playing racket sports, volleyball, or basketball.


TARGET PULSE ZONE
Heart Rate (beats per minute)
210
200
190
180
170
160
150
140
130
120
110
Maximum Heart Rate
85 percent level
TARGET ZONE
70 percent level
15
20
25
30
35
40
45
50
55
60
65
Age

Activity Four

What Fits Me?

Objectives

Cognitive: Students will learn:

- To identify the reasons for developing an individualized fitness program.

Affective: Students will:

- Understand that it is difficult to maintain a fitness program.
- See that a fitness program that fits their own schedules, personalities, interests, and abilities has a better chance of succeeding.

Skills: Students will:

- Analyze another student's fitness data.
- Use fitness data to write an individualized exercise prescription.
- Synthesize information from fitness logs, exercise prescriptions, self-assessments, and activity guide to choose activities that are suited to them.

Activity at a Glance

In this class session, students will examine data from a self-assessment and write "exercise prescriptions," individualized fitness plans for a classmate. The aim of the session is to convey the message that the more carefully you "match" your exercise program with your interests, schedule, personality, and ability, the more likely you are to maintain the program.

Preparation

1. Students should bring their fitness logs with them to class. They should have data for at least two days of exercise in their logs.

2. Copies of the "What Fits Me?" questionnaire, the exercise prescription form, and "Activity Guide" should be available for all students.

Procedure

1. Notes for Mini-Lecture

CHOOSING ACTIVITIES THAT FIT

We know that more than half of the people who begin exercise programs drop out during the first month. Why? Many of them have chosen activities that they see others doing, or have chosen the current fad (like roller skating or jogging), or have chosen what others have told them to do. They have not thought about choosing an exercise program that matches their interests, personality, schedule, or abilities.

For example, even though running is a popular aerobic activity, people who are very overweight and self-conscious about it might have problems with a running program. They might find that running is too much work, and when they run on the roads people in cars may make fun of them. This would certainly be discouraging. What activities might be better for this person? (Get students' suggestions. Walking, stationary biking, rope jumping at a slow speed--anything that would not call too much attention to the person's body would be good.)

People who enjoy spending their after-school time with friends might choose group sports, either organized team sports or sports such as cycling or running that can easily be done with friends. Spending a lonely hour swimming laps may not be the right thing for them, but it may be just right for the person who wants to get away from it all and be alone after a rough day at school.

How can you figure out what sports or activities are best for you? First, think of what you enjoy. If you like a

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How can you figure out what sports or activities are best for you? First, think of what you enjoy. If you like a

lot of different activities, you are set. Just make sure to include one aerobic activity at least three times a week. But what if you have had only bad experiences with sports or not much experience at all? The questionnaire that we're going to complete will help you figure out where to start. If you're already exercising, it will help you see why your choices are right--or maybe not right--for you.

2. Self-Assessment and Prescription

Students should complete the "What Fits Me?" questionnaire by checking the blanks that best describe themselves. Have them put a code number or pen name (not their real name) on the back of the page, and tell them to remember the identification so they can retrieve their papers later.

When they have finished, collect the papers, shuffle them, and redistribute. Students should examine the questionnaire they receive, along with the "Activity Guide," and write an exercise prescription for their classmate. When students have finished (about 10 minutes), have them staple the papers together (questionnaire and exercise prescription) and put them in a central place. Then have students retrieve their own papers.

3. Discussion

Give students a few minutes to examine their prescriptions and compare them with their exercise logs. The following questions can be used to guide the discussion, which should focus on how to select activities that fit an individual's needs:

- When you were writing the exercise prescription, how did you decide what activities would be right for the person?
- If you needed more information about the person before deciding on activities, what did you want to know?
- When you read the prescription for your own exercise program, did it seem to fit? Why or why not?
- What activities listed in your prescription were activities that you are already doing? Were there any new activities that you would like to try?

Assignment: For next time, write your own exercise prescription, based on all the information you now have about yourself (fitness log, questionnaire, and exercise prescription).

WHAT FITS ME?

Questionnaire

1. In my spare time, I mostly like to...
   _____ be by myself.
   _____ hang out with a group of friends.
   _____ be with one or two friends.
   _____ do some things by myself and some things with others.

2. I like to...
   _____ spend a lot of time outside, even if the weather is not great.
   _____ be inside most of the time.
   _____ be outside if the weather is good or otherwise stay inside.

3. My family...
   _____ participates in sports that I enjoy.
   _____ participates in sports that I don't like.
   _____ doesn't participate in many sports.

4. When I play games with others...
   _____ I love the competition.
   _____ I play mostly for fun, not for competition.
   _____ I don't enjoy myself.

5. In physical education class...
   _____ I'm a good athlete.
   _____ I'm about as good as most kids, but not as good as the "jocks."
   _____ I feel like a klutz some of the time.
   _____ I feel miserably out of shape compared to the other kids.

6. With most things that I do...
   _____ I love a challenge and like to take risks.
   _____ I'm hesitant to get involved.
   _____ I'll go along with what others are doing.

7. In games or activities, I like to do things where...
   _____ I have to concentrate and think about strategy.
   _____ I can drift along and not think too much.

8. My body is...
   _____ thin _____ muscular _____ flabby

9. I listen to music...
   _____ very rarely.
   _____ sometimes.
   _____ often.
   _____ almost always.

10. I am the kind of person who...
    _____ never has any time. I'm always busy with something.
    _____ sometimes seems to have too much time on my hands.

Rx

AN EXERCISE/ACTIVITY PRESCRIPTION

After reviewing _____'s questionnaire, I offer the following suggestions for activities:

_____ _____

_____ _____

The reasons why these activities might be especially right for _____ _____ are:

_____

_____

_____

Signed _____

Being Fit 33

ACTIVITY GUIDE

Excellent = 4 Good = 3 Fair = 2 Poor = 1

SPORT/ACTIVITY	CARDIORESPIRATORY (AEROBIC) ENDURANCE	STRENGTH Arm/Shoulder	STRENGTH Leg	STRENGTH Chest/Back	MUSCULAR ENDURANCE	FLEXIBILITY	WEIGHT MANAGEMENT (reduce % body fat)
Aerobic Dance	4	2	3	2	3	3	3
Badminton (singles)	3	2	2	2	2	2	3
Basketball	4	2	3	1	3	2	2
Bicycling	4	3	4	4	3	4	3
Calisthenics	1	4	3	3	2	2	2
Canoeing	3	4	2	4	3	2	2
Climbing/Hiking	4	2	3	3	3	1	2
Dance							
Ballet	2	2	4	2	3	4	2
Folk	3	2	3	2	2	2	2
Modern	3	2	3	3	2	4	2
Square	4	3	3	2	2	2	2
Field Hockey	4	3	3	3	3	2	2
Football (flag/touch)	3	3	3	3	2	1	2
Gymnastics	2	4	4	4	4	4	2
Handball/Squash	4	2	2	2	2	3	3
Jogging/Running	4	2	4	3	4	1	4
Rope Climbing	1	4	1	3	3	1	1
Rowing (crew)	4	4	3	3	4	2	3
Skating (ice/roller)	4	1	4	1	3	3	3
Skiing (cross-country)	4	4	4	4	4	3	4
Skiing (downhill)	2	2	4	2	2	1	1
Soccer	4	1	4	1	3	2	2
Swimming	4	4	4	4	4	3	4
Tennis	3	2	2	2	2	3	2
Volleyball	2	2	3	2	1	2	2
Walking (brisk)	4	1	3	2	3	1	3

Bowling, golf, softball, baseball and archery have recreational value, but are not helpful in improving and/or maintaining physical fitness.

From The Cardiorespiratory Module by Chapelle Arnett. Used by permission of the author.

Activity Five

A Fitness Plan That Works

Objectives

Cognitive: Students will:

- Identify the ways in which social, psychological, and physical factors can facilitate an exercise program or interfere with it.

Affective: Students will:

- Understand that in order to maintain an exercise program, a person needs support.

Skills: Students will:

- Establish a realistic exercise plan for themselves that they will implement for the next month.

  OR

- Establish a long-range fitness goal and develop a plan that will enable them to work toward that goal during the next month.

Activity at a Glance

Using the information they have collected, students will develop a realistic fitness program that they can implement over the next month. The plan will acknowledge the forces that prevent them from incorporating exercise into their daily lives, as well as the forces that make it easier for them to exercise. As an alternative, students already engaged in a regular fitness program are asked to develop a plan for achieving an athletic goal that involves more skill and commitment.

Preparation

1. Have students bring their Fitness Log notebooks to class.

2. Duplicate for each student a copy of "My Exercise Plan" and/or "A Secret Goal."

3. You may want to ask a physical education teacher to this session to serve as an expert "exercise counselor." If you involve the physical education teacher in this activity, you could also enlist his or her help in monitoring the students' progress in their exercise programs.

Procedure

1. Introduction

Start the activity by explaining to students that there are things that can either help a person keep going on an exercise program or prevent him or her from maintaining an exercise program. Each of these things can sometimes be helpful, or sometimes get in the way, depending on the situation. For example, an athlete may have a coach who is understanding and encouraging, or one who makes him or her feel like quitting after each practice. A person who wants to keep up an exercise program needs considerable support and a knowledge of ways to try to get around the obstacles that make it difficult to exercise.

2. Supports and Obstacles: A Class Poll

Write the following list on the board. As you go down the list, have students give at least one example of how each factor could either help them maintain an exercise program or get in their way. After the examples are given, take a poll. For each factor, students vote on whether that factor would mostly make exercising easier for them, mostly get in their way, or do some of each. (Students should base their votes on their own individual situations.) Record the tallies on the board.

- How could each of these things make an exercise program easier or more pleasant, and how could it make an exercise program more difficult?

CLASS POLL

	Mostly Easier	Mixed	Mostly Harder
1. Coach or physical education teacher			
2. Schedule			
3. Family			
4. Energy level			
5. Where I live			
6. Job or other after-school activities			
7. The fact that I'm a boy or a girl			
8. Friends			
9. Transportation			
10. School work			
11. My weight			
12. Teammates			
13. Expectations of others			
14. Personal problems/ stress			
15. Equipment or facilities available			
16. The way I feel about moving and being active			

(Note: Students should have the right to "pass" on any of the items being polled.)

3. Notes for Mini-Lecture

ONE SMALL STEP

You have a lot of information about yourself, based on the activities of the last few days. You know from your fitness logs the kind of activities that you usually do or do not do, and the exercise prescriptions that you wrote for yourselves and each other should give you a good idea of the kinds of activities that would best suit you. Today, we figured out what kinds of things will

help you maintain an exercise program or keep you from doing it.

Now is the time for action! We are going to figure out a plan for each of you, one that you can stick to for the next month, beginning right now. Remember, all you need to do is plan for three exercise sessions a week where you get your pulse up to the target zone (review if necessary) and keep it there for 30 minutes. If that is too much for you at this point, try exercising for 15 or 20 minutes at your target rate and doing some less strenuous exercise, like walking, for the remaining 15 or 20 minutes. Be sure to check your pulse during your exercise sessions. If you are working out at the bottom of the target zone you should feel fairly comfortable and should not be out of breath. If you are not comfortable, you are working too hard.

Distribute and review the sample plan. Pay particular attention to the "Things that will make it easy" and "Things that will make it hard," and ask students to spend some time thinking about these as they write their own plans. Then have them write their own plans (after they copy down the headings in their notebooks). Allow about 10 to 15 minutes for this activity.

Alternative: Some students in the class will already be highly active, especially those students who are on teams. You may wish to substitute "My Secret Goal" for these students. They will keep fitness logs for the next month, just like the other students, but their logs would be compared with the training program established on their goal sheet.

4. Monitoring Progress

Once students have established their plan, they should continue filling out their fitness logs for the next month. The logs can be compared with the plan to determine whether students are meeting their goals.

Plan to build in a "progress check" each week. For example, you could spend five minutes a week having students review their own (or each other's) logs to see if they are consistent with the plan. Or, you or the physical education teacher could have a brief individual conference with each student while the group is working on something else.

To remind students about the progress checks, you might circle the dates in red on your classroom calendar. Several teachers who field-tested this module suggested that it might be motivating to set up some kind of reward system for students who successfully meet the goals they have set for themselves. Use your imagination for establishing appropriate rewards or ask your class to suggest some.

MY EXERCISE PLAN

Come up with a plan that you really think you can do for the next month. Be realistic about the amount of time it will take, the things that will make the plan difficult to stick to, and the excuses you might come up with for not sticking to your plan. Think about the things that will make it easy for you to stick to the plan, too. If there aren't already supports out there, you may have to create them. For example, you could ask a friend to bike to school with you, or plan to get together after school with a group of friends to play basketball. Don't make it too rough, or you won't stick with it! Here's a sample plan.

Activity/Exercise	How often each week?	For how long?	Things that will make it easy:	Things that will make it hard:
walk to school	3 times	15 minutes each way	Could walk with Joe Good weather It's easy to fit into my schedule	Bad weather If I'm in a hurry, I may take the bus
swimming	once	30 minutes	Easy to get to pool (1 block away) I belong to the "Y" already, so it won't cost anything I feel so relaxed after I swim	Takes time to get ready, dry off Pool is not always open at the time I want to swim

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A SECRET GOAL

What is it that you dream about doing? Being selected for a famous ballet company? Playing on a pro basketball team? Being a wheelchair contestant in the Boston Marathon? Swimming in the state meet? Or even going to the Olympics? Maybe something more private, like spending a few months hiking the Appalachian Trail from start to finish, or riding your bike across the country.

Can you do it? Well, it depends. It takes a combination of ability and discipline to achieve goals such as these, and it takes some luck as well. To begin, you need a plan. So if you have a secret goal and are seriously interested in working toward it, fill in the plan below. You will need a lot of support to get you there, so try to identify all the things you can that will make it easier. There will be plenty of obstacles in the way, so you have to be a good problem-solver and figure out how to get around the obstacles. And good luck!

My goal is:

I hope to achieve this goal by _____ (date).

The kind of training program that I'll need to achieve this goal is:

These things would make it easier to achieve this goal:

These are the things that will make it hard:

I'll get around the things that will make it hard by:

Activity Six

Community Fitness Map

Objectives

Cognitive: Students will:

- Identify the ways in which their own community encourages or discourages fitness.
- Understand that an individual's ability to maintain a fitness program is to a large extent determined by the accessibility and cost of exercise facilities.
- Learn the ways in which other countries promote fitness through policies and community facilities.

Affective: Students will:

- Develop an appreciation for the importance of low-cost fitness facilities.

Skills: Students will:

- Locate places in their own community where people can become more fit.
- Develop a guide to community fitness that can be used by others in their school and community.

Activity at a Glance

After hearing about fitness resources in other countries, students will construct a map of their own community that shows the location of fitness facilities, classes, and resources. They will make a resource guide that includes information on each fitness facility, and will contribute the map and resource guide to their school.

Preparation

1. Have available large sheets of newsprint, felt-tipped pens, and blank 3" x 5" cards.

2. Before class, divide the community into several "chunks" or neighborhoods and make a rough outline of each section on a large sheet of newsprint. The segments of the community should represent all the areas in which students in the class live. Plan on having about four to six chunks, so a small group of students can work on each one.

Procedure

1. Notes for Mini-Lecture

OTHER TIMES, OTHER PLACES

In the past, people did not have to plan fitness programs like the plans we made in the last class session. They had to be active to survive. Hunting for food involved tracking down animals over many miles, or checking on traps placed over a large territory. Crops were planted, cultivated, and harvested by hand or with the help of a horse or mule, not with the sophisticated machinery of many of today's farms. Until about 100 years ago, most families built their own houses, with some help from their neighbors, and we know today that carpentry demands huge amounts of energy. No wonder our great-grandparents could eat almost twice as much as we do and at the same time weigh less than we do!

Today, things are much different. Many people have to plan their lives very carefully to make sure they get enough activity. Our society has made it easy for us to ride rather than walk or bike to our destinations. (At this point, ask students for some examples of machines that "save" human energy, such as escalators, mopeds, etc.) Many of our labor-saving machines save time, but at the same time they prevent us from getting important exercise.

Several other countries are attempting to encourage fitness among citizens. For example:

- In Canada, the Health and Welfare Ministry has developed a "Fit-Kit" package, including information on fitness, a fitness test, and a progress record.

The kit is distributed free of charge to anyone who requests it. The Canadian government also sponsors fitness commercials on television that encourage citizens to exercise.

- Scandinavian countries encourage exercise by providing networks of attractive bicycle and cross-country trails and other fitness facilities within a short distance of everyone's home. In school, students learn about the sports that they can do throughout their lives to achieve fitness rather than doing team sports that demand a lot of organization and equipment.

- Eastern European countries are noted for their philosophy that <u>everyone</u> is an athlete. (Do you agree with this philosophy?) Athletic excellence is prized, and the state promotes it by sending children who show ability to special schools. People with more modest abilities are also encouraged to exercise by the availability of special programs and government-sponsored athletic clubs and facilities.

- In China, exercise breaks are a regular part of most workdays. Instead of eating pastries during their coffee breaks, people get up and do calisthenics or dances. Bicycles are a much more common means of transportation than cars, and the portion of the road that cars can use is limited.

2. <u>Encouraging Exercise at School</u> (Optional)

As an optional out-of-class activity, you might encourage students to volunteer to do some of the following:

- Talk with the principal about having "exercise breaks" during class. How could you convince teachers that by providing a brief exercise break, they would be <u>helping</u> their students' concentration? Someone might want to work with the physical education teacher on developing an exercise routine of three to five minutes that could be used in classrooms.

- Investigate the physical education program by interviewing the teachers. Ask them what they are doing to help students develop an interest in the types of sports that they can continue throughout their lifetimes. Ask about special provisions for students who are in poor physical condition or for handicapped students.

3. Community Fitness Map

Divide the students into groups, based on the neighborhood where they live. Each group gets the map of its own neighborhood. On the board, list the following resources:

bike path
baseball field
basketball court
tennis court
racketball court
swimming pool
jogging/walking trail
skating rink (ice or roller)
ski trail
dance studio/school
exercise club (Nautilus, Women's World)
life course/par course
soccer/football field
rowing or canoeing facilities
special instruction: judo, yoga, gymnastics
volleyball/badminton
other

Using this list, students should determine the location of all the facilities they can think of in their neighborhoods and number them on the map. They should then record the following information on cards with corresponding numbers:

Name of place or facility

What activity or activities can be done there

How much it costs, if anything

Whether anyone can use it, or it is restricted to a certain age group or to members

The hours it is open, and sign-up rules, if any

Public transportation availability, routes

(Students may need some homework time to complete the information on the cards, but they should fill in as much as possible.)

After 20 minutes or so, the groups should come together and merge their maps. Lead a discussion about the findings, considering some of the following issues:

- What kind of facilities do we have in abundance?
- Are most of the facilities in our community free, or do they cost something?
- What facilities are available at no cost? Are these facilities open at reasonable hours? Are they easy to reach?
- Who would find it easy to stay fit in our community (people of what ages, playing what sports)?

- Who would find it easy to stay fit in our community (people of what ages, playing what sports)?
- Who would find it more difficult?
- What facilities are there for handicapped people? For older people?
- What kinds of facilities does the community need to encourage fitness?

Note: In communities where facilities are very limited, you can adapt this activity by asking students to plan how they a) would use the available resources to encourage more interest among community members in exercise and b) what additional fitness facilities they would suggest for the community.

4. Using Community Fitness Resources

This activity can be done either as a role play, as a group problem-solving activity, or as a homework assignment. The vignettes that follow include people of different ages and backgrounds, all of whom need a fitness program. Before starting, decide where in your community the person lives.

Mr. G. is 50 years old and lives_____. He has a bad back. His doctor has encourage him to exercise but told him to choose only the following activities: swimming, walking, biking, and stretching or yoga. On weekdays, Mr. G. works until 5:00, drives home, and has dinner. It is usually dark by the time he finishes dinner at 7:00. Mr. G. is on a very tight budget, because he and his family have recently had a lot of medical bills to pay. He cannot affort to pay more than a couple of dollars a week for whatever exercise he does.

Option for Role Play: One student plays the part of Mr. G., another his son/daughter. Mr. G. hangs up the phone and says to son/daughter, "The doc says I've gotta exercise, but when will I find the time? And what kind of exercise can I do, anyhow?"

Mrs. B. is 28 years old and lives_____. She had a baby three months ago, and she's still 15 pounds heavier than she was before she got pregnant. She is not working outside the home, and being cooped up in the house with the baby, she snacks more and does not get much exercise. Much of the time Mrs. B. is tired, and she usually finds herself falling asleep soon after she and her husband have eaten dinner. She knows that exercise will help her get back into shape and give her more energy, but has had little time to think about exercise lately.

Option for Role Play: One student plays the part of Mrs. B., the other student her babysitter. One day after Mrs. B. comes home from shopping, she says to the babysitter, "I'm so out of shape I can't stand it. I wish I had my old body back--I used to be in such good shape!"

- Joe is 16 and lives _____. He has cerebral palsy, which in his case means his speech is slurred and he walks with a bit of a limp. Joe is pretty popular with the other kids, but he feels left out because he is not on any of the teams. He goes to most of the school games but he is disappointed that all he can do is watch. He would like to be more active, and it seems unfair that just because he limps he has to sit around all the time.

  Option for Role Play: One student plays the part of Joe, the other Joe's physical education teacher. After class one day, as Joe is walking to the locker room, he says to his teacher, "I sure wish there was more that I could do to be with the other kids and keep myself in shape. It seems like half the time I'm standing around watching."

- Maria and David are 10-year-old twins who live _____. Their family recently moved to the town, and the twins have had a lot of problems adjusting to school. One of the problems is that they are both overweight and their classmates make fun of them. Their doctor suggested an appropriate diet for the twins, as well as increased exercise. The problems is that it is hard for Maria and David to get more exercise, because their classmates are not eager to play with them. They end up by themselves, watching television and snacking more. What a vicious circle!

  Option for Role Play: One student plays the role of Mr. T., the twins' father, and the other plays the part of the doctor. Mr. T. calls the doctor and says, "I just don't know how Maria and David can get more exercise. Nobody will play with them, and I don't know what kinds of sports or activities are available here in _____ for kids their age."

5. Sharing the Map

Students should determine some possible places to post their Fitness Map (in school, or the community center or town building). As an optional activity, they may want to write an article for the school paper or the town paper based on the map. If there is time, have them brainstorm other ways of sharing the information with others.

Other Programs and Resource Materials

Additional Information for Teachers Relevant to this Module.

Anderson, George; and Johnson, Pamela. Physical Fitness Digest. Chicago: Follett Publishing Company, 1979.

Buxbau, Robert; and Michell, Lyle. Sports For Life. Boston: Beacon Press, 1979.

Conger, John Adolescence and Youth: Psychological Development in a Changing World. New York: Harper & Row, 1977.

Cooper, Kenneth. The New Aerobics. New York: Bantam Books, 1970.

Exercise and Your Heart. Washington, D.C.: Department of Health and Human Services, Public Health Service, National Institutes of Health, 1981.

Fahey, T. What To Do About Athletic Injuries. New York: Butterick Publishing, 1979.

Kostrubala, Theodore. The Joy of Running. Philadelphia: Lippincott, 1976.

Mayer, Jean. Overweight Causes, Cost, and Control. Englewood Cliffs, New Jersey: Prentice Hall, 1968.

Michener, James. Sports in America. New York: Random House, 1976.

Sharkey, B.J. Physiology and Physical Activity. New York: Harper & Row, 1975.

Shepro, David; and Knuttgen, Howard. Complete Conditioning: The No-Nonsense Guide to Fitness and Good Health. Reading, MA: Addison-Wesley Publishing Company, 1979.

Thomas, G.; Franks, P.; and Paffenbarger, R. Exercise and Health: The Evidence and the Implications. Cambridge, MA: Oelgeschlager, Gunn, and Hain Publishers, 1981.

SOME NATIONAL HEALTH ORGANIZATIONS

The following list is a sampling of national organizations offering health information. It is not intended to be exhaustive, and will hopefully be updated periodically to identify organizations that have been missed or that have produced new resources useful in health education curricula. THOSE SEEKING PUBLICATIONS OR INFORMATION ASSISTANCE FROM THESE ORGANIZATIONS SHOULD ALWAYS DETERMINE IF THERE IS A LOCAL OR STATE AFFILIATE OF THE NATION ORGANIZATION AND CONTACT THE CLOSEST OFFICE FIRST. Addresses and phone numbers can be checked through telephone directories, libraries, and local health agencies. ALSO HEALTH INFORMATION AND HELP IN IDENTIFYING OTHER VALUABLE RESOURCES CAN FREQUENTLY BE OBTAINED FROM OFFICIAL STATE AND LOCAL HEALTH AND EDUCATION AGENCIES, COLLEGE AND UNIVERSITY HEALTH EDUCATION PERSONNEL, AND/OR LIBRARY REFERENCE GUIDES. Many of the publications and services are free to the public; others involve a nominal charge.

Action on Smoking and Health
2013 H St., N. W.
Washington, D.C. 20006

Al-Anon Family Group Headquarters, Inc.
P. O. Box 182
Madison Square Station
New York, NY 10059-0182

Alcoholics Anonymous
P. O. Box 459
Grand Central Station
New York, NY 10163

American Academy of Dermatology
320 Davis
Evanston, IL 60201

American Alliance for Health, Physical Education, Recreation and Dance
Association for the Advancement of Health Education
1900 Association Drive
Reston, VA 22091

American Cancer Society
777 Third Avenue
New York, NY 10017

American Council on Marijuana and Other Psychoactive Drugs
6193 Executive Boulevard
Rockville, MD 20852

American Dental Association
Bureau of Health Education and Audiovisual Services
211 E. Chicago Avenue
Chicago, IL 60611

American Diabetes Association
Two Park Avenue
New York, NY 10016

American Dietetic Association
430 N. Michigan Avenue
Chicago, IL 60611

American Hearing Society (formerly National Association for Hearing and Speech Action)
10801 Rockville Pike
Rockville, MD 20852

American Heart Association
7320 Greenville Avenue
Dallas, TX 75231

American Hospital Association
Department of Order Processing
840 N. Lake Shore Drive
Chicago, IL 60611

American Lung Association
1740 Broadway
New York, NY 10019

American Medical Association
Department of Health Education
535 N. Dearborn Street
Chicago, IL 60610

American Medical Association Auxiliary
535 N. Dearborn Street
Chicago, IL 60610

American Optometric Association
Attn: Communications Division
243 N. Lindberg Boulevard
St. Louis, MO 63141

American Osteopathic Association
Public Relations Department
212 E. Ohio Street
Chicago, IL 60611

American Pharmaceutical Association
2215 Constitution Avenue, N.W.
Washington, DC 20037

American Podiatry Association
Council On Education
20 Chevy Chase Circle, N.W.
Washington, DC 20015

American Red Cross
17th and E Streets, N.W.
Washington, DC 20006

American School Health Association
P.O. Box 708
Kent, Ohio 44240

American Social Health Association
260 Sheridan Avenue
Palo Alto, CA 94306

Arthritis Foundation
1314 Spring Street
Atlanta, GA 30309

Association for Retarded Citizens
(formerly National Association for Retarded Children)
P.O. Box 6109
Arlington, TX 76011

Asthma and Allergy Foundation of America
1302 18th Street, N.W., Suite 303
Washington, DC 20036

Blue Cross/Blue Shield Association
676 N. Saint Clair Street
Chicago, IL 60611

Cystic Fibrosis Foundation
Suite 558
3384 Peachtree Road, N.E.
Atlanta, GA 30326

Epilepsy Foundation of America
4351 Garden City Drive
Suite 406
Landover, MD 20785

Family Service Association of America
44 E. 23rd Street
New York, NY 10010

Group Against Smoker's Pollution
P.O. Box 632
College Park, MD 20740

Kimberly-Clarke
Life Cycle Center
2100 Winchester Road
Neenah, WI 54956

Leukemia Society of America
800 Second Avenue
New York, NY 10017

March of Dimes, Birth Defects Foundation
1275 Mamaroneck Avenue
White Plains, NY 10605

Mental Health Materials Center
30 E. 29th Street
New York, NY 10016

Metropolitan Life Insurance Co.
Health and Safety Education Div.
One Madison Avenue
New York, NY 10010

Muscular Dystrophy Association
810 Seventh Avenue
New York, NY 10019

National Center for Health Education
30 E. 29th Street
New York, NY 10016

National Council on Alcoholism, Inc.
733 Third Avenue, Suite 1405
New York, NY 10017

National Cystic Fibrosis Research Foundation
60 E. 42nd Street, Suite 1563
New York, NY 10017

National Dairy Council
6300 N. Rier Road
Rosemont, IL 60018

National Easter Seal Society
2023 W. Ogden Avenue
Chicago, IL 60612

National Fire Protection
Association
Battery March Park
Quincy, MA 02269

National Genetic Foundation
555 W. 57th Street
New York, NY 10019

National Hemophilia Foundation
19 W. 34th S., Suite 1204
New York, NY 10001

National Kidney Foundation
Two Park Avenue
New York, NY 10016

National Mental Health Association
1800 N. Kent Street
2nd Floor
Arlington, VA 22209

National Multiple Sclerosis
Society
20 E. 42nd Street
New York, NY 10017

National Safety Council
444 N. Michigan Avenue
Chicago, IL 60611

National Society for the Prevention
of Blindness, Inc.
79 Madison Avenue
New York, NY 10016

National Tay-Sachs and Allied
Diseases Association, Inc.
92 Washington Avenue
Cedarhurst, NY 11516

Planned Parenthood Federation
of America, Inc.
810 Seventh Avenue
New York, NY 10019

Public Affairs Committee, Inc.
381 Park Avenue South
New York, NY 10016

Tampax, Incorporated
Department HI
P.O. Box 7001
Lake Success, NY 11402

United Cerebral Palsy Association
330 E. 34th Street
New York, NY 10001

United Parkinson's Foundation
220 S. State St., Room 1808
Chicago, IL 60604

FEDERAL GOVERNMENT RESOURCES

Arthritis Information Clearinghouse
1700 N. Moore Street
Arlington, VA 22209

Cancer Information Clearinghouse
National Cancer Institute
Office of Cancer Communications
Building 31, Room 10A18
9000 Rockville Pike
Bethesda, MD 20205

Center for Health Promotion
and Education
Division of Health Education
Centers for Disease Control
Atlanta, GA 30333

Clearinghouse on the Handicapped
330 C Street, S.W.
Washington, DC 20201

Consumer Information Center
Pueblo, CO 81009

Environmental Protection Agency
Public Inquiries Center, PM 211-B
401 "M" Street, S.W.
Washington, DC 20460

Food and Drug Administration
Office of Consumer Inquiries (HFE-88)
5600 Fishers Lane
Rockville, MD 20857

Food and Nutrition Information
Center (FNIC)
3101 Park Center Drive
Alexandria, VA 22302

High Blood Pressure Information
Center
120/80 National Institutes of
Health, Box UR
Bethesda, MD 20205

National Center for Education in
Maternal and Child Health
3520 Prospect Street, N.W.
Washington, DC 20007

National Clearinghouse for
Alcohol Information
P.O. Box 2345
Rockville, MD 20857

National Clearinghouse for
Drug Abuse Information
5600 Fishers Lane, Room 10A43
Rockville, MD 20857

National Clearinghouse for Family
Planning Information
P.O. Box 2225
Rockville, MD 20857

National Clearinghouse for
Mental Health Information
Public Inquiries Section
5600 Fishers Lane, Room 15C17
Rockville, MD 20857

National Diabetes Information
Clearinghouse
Box NDIC
Bethesda, MD 20205

National Digestive Diseases Education
and Information Clearinghouse
1555 Wilson Blvd., Suite 600
Rosslyn, VA 22209

National Health Information
Clearinghouse (NHIC)
P.O. Box 1133
Washington, DC 20013-1133

National Highway Traffic Safety
Administration (NHTSA)
U.S. Department of Transportation
400 7th Street, S.W.
Washington, D.C. 20590

National Injury Information
Clearinghouse
5401 Westbard Avenue, Room 615
Washington, DC 20207

National Institute for Drug Abuses
5600 Fishers Lane
Rockville, MD 20857

National Institutes of Health
Bethesda, MD 20205

National Heart, Lung, and Blood Institute
Public Information and Reports Branch
Building 31, Room 4A21
National Institutes of Health
Bethesda, MD 20205

Office of Consumer Affairs
Washington, DC 20201

Office on Smoking and Health
Technical Information Center
Park Building, Room 116
5600 Fishers Lane
Rockville, MD 20857

President's Council on Physical Fitness and Sports
450 Fifth Street, N.W.
Suite 7103
Washington, DC 20001

Superintendent of Documents
U.S. Government Printing Office
Washington, DC 20402

U.S. Consumer Product Safety Commission
Washington, DC 20207

U. S. Department of Agriculture
Washington, D.C 20250

U. S. Department of Health and Human Services
Washington, DC 20201

Credits

CURRICULUM DEVELOPER AND AUTHOR:
Janice R. Mokros

PROJECT DIRECTORS:
Janet Whitla 1979-1980
Cheryl J. Vince 1980-1981
Ann M. Lee 1981-1982
Mildred Zeldes Solomon 1982-present

DIRECTOR OF CURRICULUM DEVELOPMENT:
Mildred Zeldes Solomon 1980-1982

DIRECTORS OF RESEARCH AND EVALUATION:
Ann M. Lee 1979-1981
Sarah L. Levine 1981-present

SENIOR ASSOCIATE FOR CURRICULUM DEVELOPMENT:
Ruth N. MacDonald 1979-present

SENIOR ASSOCIATE FOR OUTREACH AND DISSEMINATION:
Jacquelyn G. Sowers 1979-present

CONSULTANT:
Howard B. Sagrans

EDITOR:
Barbara B. Herzstein

ART DIRECTOR AND PRODUCTION MANAGER:
Patricia A. Jones

RESEARCHER AND PERMISSIONS EDITOR:
Marc Posner

PRODUCTION COORDINATOR:
Ann Hagenstein

PRODUCTION ASSISTANT:
Joan M. Gowett

ADMINISTRATIVE COORDINATOR:
Sherlyn Dunlevy

SECRETARY:
Dulcie Herr

MANUSCRIPT PRODUCTION MANAGER:
Virginia Fay

TYPIST:
Margaret Erickson

DIRECTOR, SCHOOL AND SOCIETY PROGRAMS
ASSOCIATE DIRECTOR,
EDUCATION DEVELOPMENT CENTER, INC.
Cheryl J. Vince

PRESIDENT,
EDUCATION DEVELOPMENT CENTER, INC.
Janet Whitla

ADVISORY GROUP

Henry E. Cooper, M.D.
Director, Adolescent Clinic
University of Colorado Medical Center
4200 East Ninth Avenue
(Container A024)
Denver, Colorado 80262

John D. Crawford, M.D.
Pediatrics, Shriners Burns Institute
51 Blossom Street
Boston, Massachusetts 02114

Florence Fenton, Ed.D.
Supervisor of Health Education/ Health Services
Prince George's County Public Schools
Upper Marlboro, Maryland 20870

Reverend Arturo Max Fernandez, M.Th.
District Superintendent
Bay View District
United Methodist Church
California-Nevada Area Conference
2320 Dana Street
Berkeley, California 94704

Marian V. Hamburg, Ed.D.
Chairperson
Department of Health Education
South Building, Fifth Floor
Washington Square
New York, New York 10003

Robert L. Holland, M.A.
Assistant Director
Division of Elementary and Secondary Education
Chief, Health and Health Affairs Section
Ohio State Department of Health
Room 105
65 South Front Street
Columbus, Ohio 43215

Robert Leake, Ed.D.
Coordinator for School Improvement
Specialist for Health, Physical Education, and Recreation
Utah State Office of Education
250 East 500 South
Salt Lake City, Utah 84111

Ric Loya, M.S.
President, California Association of School Health Education
Health Teacher
Huntington Park High School
Hungington Park, California 90255

Gordon L. McAndrew, Ed.D
Superintendent, Richland County Schools
District One
Administrative Offices
1616 Richland Street
Columbia, South Carolina 29201

Elena M. Sliepcevich, D.P.E.
Professor, Department of Health Education and School of Medicine
Southern Illinois University at Carbondale
Carbondale, Illinois 62901

Virginia Sparling, M.S.W., M.Ed.Ad.
Immediate Past President National PTA
700 North Rush Street
Chicago, Illinois 60611

Lucille Trucano, M.S., Consultant
Health Education
210 Southwest 299th Place
Federal Way, Washington 98003

Reverend Monsignor Francis Weldgen, S.T.L.
Catholic Youth Department
Buffalo Diocese
100 S. Elmwood Avenue
Buffalo, New York 14202

Michael Willie, Ph.D., Director
Division of Pupil Health and Fitness
New York State Department of Education
Room 980 - Education Building Annex
Albany, New York 12210

EX-OFFICIO ADVISORY GROUP MEMBERS

Roy L. Davis, M.A., M.P.H.
THTM Co-Project Officer
Director, School Programs and Special Projects
Division of Health Education
Center for Health Promotion and Education
Centers for Disease Control
Atlanta, Georgia 30333

Peter Cortese, Dr.P.H.
Formerly Director
Office of Comprehensive School Health Education
Bureau of School Improvement
U. S. Department of Education
Washington, D.C. 20202

Currently Acting Associate Dean
School of Applied Arts and Sciences
California State University
Long Beach, California 90840

Beth T. Layson
THTM Co-Project Officer
Public Health Advisor
School Programs and Special Projects
Division of Health Education
Center for Health Promotion and Education
Centers for Disease Control
Atlanta, Georgia 30333

Donald C. Iverson, Ph.D.
Formerly Special Assistant to the Director
Office of Health Information, Health Promotion and Physical Fitness and Sports Medicine
Office of the Assistant Secretary for Health (Surgeon General of the Public Health Service)
U. S. Department of Health and Human Services
Washington, D.C. 20202

Currently Director of Health Promotion/Disease Prevention Program
Family Medicine Program
Mercy Medical Center
Denver, Colorado 80206

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